

ABSTRACT

A vibration isolation system isolates a body from its surroundings with respect to vibrations. The vibration isolation system includes active isolator devices that isolate and damp the body in unstable directions. However, such active isolators may exert damping forces not only in the unstable direction, but simultaneously in other stable directions due to mechanical coupling of the stable and unstable directions. As a result the damping and isolation in the other stable directions may be deteriorated due to the active isolation and damping. Employing modal decoupling, i.e. decomposing any vibration into independent directions, and isolating and damping in the independent directions, enables compensation of any vibration in an unstable direction without influencing the isolation and damping performance in any other, possibly stable, direction.